

RAW SEQUENCE LISTING **ERROR REPORT**

0200
BIOTECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following CRF diskette:

Application Serial Number:

09/468,147

Art Unit / Team No. :

01PR

Date Processed by STIC:

1/13/2000

THE ATTACHED PRINTOUT EXPLAINS THE ERRORS DETECTED.

PLEASE BE SURE TO FORWARD THIS INFORMATION TO THE APPLICANTS BY EITHER:

1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANTS ALONG WITH A NOTICE TO COMPLY or,

2) CALLING APPLICANTS AND FAXING THEM A COPY OF THE PRINTOUT WITH A NOTICE TO COMPLY

THIS WILL INSURE THAT THE NEXT SUBMISSION RECEIVED FROM THEM WILL BE ERROR FREE.

IF YOU HAVE ANY FURTHER QUESTIONS, PLEASE CALL:

MARK SPENCER 703-308-4212

Raw Sequence Listing Error Summary

ERROR DETECTED SUGGESTED CORRECTION

SERIAL NUMBER: 09/468,147

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics The number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".
- 2 Wrapped Aminos The amino acid number/text at the end of each line "wrapped" down to the next line.
This may occur if your file was retrieved in a word processor after creating it.
Please adjust your right margin to .3, as this will prevent "wrapping".
- 3 Incorrect Line Length The rules require that a line not exceed 72 characters in length. This includes spaces.
- 4 Misaligned Amino Acid The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs
Numbering between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
- 5 Non-ASCII This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
- 6 Variable Length Sequence(s) contain n's or Xaa's which represented more than one residue.
As per the rules, each n or Xaa can only represent a single residue.
Please present the maximum number of each residue having variable length and
indicate in the (ix) feature section that some may be missing.
- 7 PatentIn ver. 2.0 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid
sequence(s) . Normally, PatentIn would automatically generate this section from the
previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section
to the subsequent amino acid sequence.
- 8 Skipped Sequences Sequence(s) missing. If intentional, please use the following format for each skipped sequence:
(OLD RULES) (2) INFORMATION FOR SEQ ID NO:X:
(i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:
This sequence is intentionally skipped

Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
- 9 Skipped Sequences Sequence(s) missing. If intentional, please use the following format for each skipped sequence.
(NEW RULES) <210> sequence id number
 <400> sequence id number
 000
- 10 Use of n's or Xaa's Use of n's and/or Xaa's have been detected in the Sequence Listing.
(NEW RULES) Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 11 Use of <213>Organism Sequence(s) are missing this mandatory field or its response.
(NEW RULES)
- 12 Use of <220>Feature Sequence(s) are missing the <220>Feature and associated headings.
(NEW RULES) Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown"
Please explain source of genetic material in <220> to <223> section.
(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)
- 13 PatentIn ver. 2.0 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted
file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).
Instead, please use "File Manager" or any other means to copy file to floppy disk.
AKS-Biotechnology Systems Branch- 5/15/99

n14
5-11-00
#4

OIPE

PAGE: 1

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

This Raw Listing contains the General
Information Section and those Sequences
containing ERRORS.

Does Not Comply
Corrected Diskette Needed

1 <110> Schlauder, George G
2 Erker, James C
3 Desai, Suresh M
4 Dawson, George J
5 Mushawar, Isa K
6 <120> METHODS AND COMPOSITIONS FOR DETECTING HEPATITIS E
7 VIRUS
8 <130> 6232.US.01
9 <140> US/09/468,147
10 <141> 1999-12-21
11 <150> US 09/173,141
12 <151> 1998-10-15
13 <160> 258
14 <170> PatentIn Ver. 2.0

pg 10-12

ERRORED SEQUENCES FOLLOW

15 <210> 90
16 <211> 7202
17 <212> DNA
18 <213> Hepatitis E virus
19 <220>
20 <221> CDS
21 <222> (1)..(5097)
22 <223> orf1
23 <220>
24 <221> CDS
25 <222> (5132)..(7114)
26 <223> orf2
27 <220>
28 <221> misc_feature
29 <222> ()..
30 <223> CDS- orf3
31 <220>
32 <223> us1full
33 <400> 90
34 cct ggc att act act gcc att gag cag gct gct ctg gct gcg gcc aat 48
35 Pro Gly Ile Thr Thr Ala Ile Glu Gln Ala Ala Leu Ala Ala Asn
36 1 5 10 15
37 tct gcc ttg gcg aat gct gtg gtg gtt cgg ccg ttt tta tct cgc gtg 96
38 Ser Ala Leu Ala Asn Ala Val Val Val Arg Pro Phe Leu Ser Arg Val
39 20 25 30

see
p 10

PAGE: 2

RAW SEQUENCE LISTING PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

40	caa acc gag att ctt att aat ttg atg caa ccc cgg cag ttg gtt ttc	144
41	Gln Thr Glu Ile Leu Ile Asn Leu Met Gln Pro Arg Gln Leu Val Phe	
42	35 40 45	
43	cgc cct gag gta ctt tgg aat cac cct atc cag cgg gtt ata cat aat	192
44	Arg Pro Glu Val Leu Trp Asn His Pro Ile Gln Arg Val Ile His Asn	
45	50 55 60	
46	gaa tta gaa cag tac tgc cgg gct cgg gct ggt cgt tgc ttg gag gtt	240
47	Glu Leu Glu Gln Tyr Cys Arg Ala Arg Ala Gly Arg Cys Leu Glu Val	
48	65 70 75 80	
49	gga gct cac cca aga tcc att aat gac aac ccc aac gtt ctg cat cgg	288
50	Gly Ala His Pro Arg Ser Ile Asn Asp Asn Pro Asn Val Leu His Arg	
51	85 90 95	
52	tgt ttc ctt aga ccg gtt ggc cga gat gtt cag cgc tgg tac tct gcc	336
53	Cys Phe Leu Arg Pro Val Gly Arg Asp Val Gln Arg Trp Tyr Ser Ala	
54	100 105 110	
55	ccc acc cgc ggc cct gcg gct aat tgc cgc cgc tcc gcg ttg cgt ggt	384
56	Pro Thr Arg Gly Pro Ala Ala Asn Cys Arg Arg Ser Ala Leu Arg Gly	
57	115 120 125	
58	ctc ccc ccc gct gac cgc act tac tgc ttt gat gga ttc tcc cgt tgt	432
59	Leu Pro Pro Ala Asp Arg Thr Tyr Cys Phe Asp Gly Phe Ser Arg Cys	
60	130 135 140	
61	gct ttt gct gca gag acc ggt gtg gct ctt tac tct ctg cat gac ctt	480
62	Ala Phe Ala Ala Glu Thr Gly Val Ala Leu Tyr Ser Leu His Asp Leu	
63	145 150 155 160	
64	tgg cca gct gat gtt gca gag gct atg gcc cgc cac ggg atr aca cgc	528
65	Trp Pro Ala Asp Val Ala Glu Ala Met Ala Arg His Gly Xaa Thr Arg	
66	165 170 175	
67	ttg tat gcc gca ctg cac ctt ccc cct gag gtg ctg cta cca ccc ggc	576
68	Leu Tyr Ala Ala Leu His Leu Pro Pro Glu Val Leu Leu Pro Pro Gly	
69	180 185 190	
70	acc tac cac aca acc tcg tat ctc ctg att cac gac ggc gac cgc gct	624
71	Thr Tyr His Thr Thr Ser Tyr Leu Leu Ile His Asp Gly Asp Arg Ala	
72	195 200 205	
73	gtt gta act tac gag ggc gat act agt gcg ggc tat aat cat gat gtc	672
74	Val Val Thr Tyr Glu Gly Asp Thr Ser Ala Gly Tyr Asn His Asp Val	
75	210 215 220	
76	tcc ata ctt cgt gcg tgg atc cgt act aca aaa ata gtt ggt gat cat	720
77	Ser Ile Leu Arg Ala Trp Ile Arg Thr Thr Lys Ile Val Gly Asp His	
78	225 230 235 240	
79	ccg ttg gtc ata gag cgt gtg cgg gcc att gga tgt cat ttt gtg ttg	768
80	Pro Leu Val Ile Glu Arg Val Arg Ala Ile Gly Cys His Phe Val Leu	
81	245 250 255	
82	ctg ctc acc gca gcc cct gag cgg tca ccc atg cct tat gtt cct tac	816
83	Leu Leu Thr Ala Ala Pro Glu Pro Ser Pro Met Pro Tyr Val Pro Tyr	
84	260 265 270	
85	cct cgt tca acg gag gtg tat gtc cgg tcc ata ttt ggc cct ggc ggc	864
86	Pro Arg Ser Thr Glu Val Tyr Val Arg Ser Ile Phe Gly Pro Gly Gly	
87	275 280 285	
88	tcc cca tcc ttg ttt ccg tca gcc tgc tct act aaa tct act ttc cat	912
89	Ser Pro Ser Leu Phe Pro Ser Ala Cys Ser Thr Lys Ser Thr Phe His	

PAGE: 3

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

90	290	295	300	
91	gct gtc ccg gtg cat atc tgg gat cgg ctc atg ctc ttt ggt gcc acc	960		
92	Ala Val Pro Val His Ile Trp Asp Arg Leu Met Leu Phe Gly Ala Thr			
93	305 310 315 320			
94	ctg gac gat cag gcg ttt tgc tgt tca cgg ctc atg act tac ctc cgt	1008		
95	Leu Asp Asp Gln Ala Phe Cys Cys Ser Arg Leu Met Thr Tyr Leu Arg			
96	325 330 335			
97	ggt att agt tac aag gtc act gtc ggc gcg ctt gtc gct aat gag ggg	1056		
98	Gly Ile Ser Tyr Lys Val Thr Val Gly Ala Leu Val Ala Asn Glu Gly			
99	340 345 350			
100	tgg aac gcc tct gaa gac gct ctt act gca rtg atc act gca gct tat	1104		
101	Trp Asn Ala Ser Glu Asp Ala Leu Thr Ala Xaa Ile Thr Ala Ala Tyr			
102	355 360 365			
103	ttg act att tgc cat cag cgt tat ctc cgc acc cag gcg ata tcc aag	1152		
104	Leu Thr Ile Cys His Gln Arg Tyr Leu Arg Thr Gln Ala Ile Ser Lys			
105	370 375 380			
106	ggc atg cgc cgg ttg ggg gtt gag cac gcc cag aaa ttt atc aca aga	1200		
107	Gly Met Arg Arg Leu Gly Val Glu His Ala Gln Lys Phe Ile Thr Arg			
108	385 390 395 400			
109	ctc tac agt tgg cta ttt gag aag tct ggc cgt gat tat atc ccc ggc	1248		
110	Leu Tyr Ser Trp Leu Phe Glu Lys Ser Gly Arg Asp Tyr Ile Pro Gly			
111	405 410 415			
112	cgc cag ctt cag ttc tat gca cag tgc cga cgg tgg cta tct gca ggc	1296		
113	Arg Gln Leu Gln Phe Tyr Ala Gln Cys Arg Arg Trp Leu Ser Ala Gly			
114	420 425 430			
115	ttc cac cta gac ccc agg gta ctt gtt ttt gat gag tca gta cca tgc	1344		
116	Phe His Leu Asp Pro Arg Val Leu Val Phe Asp Glu Ser Val Pro Cys			
117	435 440 445			
118	cgc tgt agg acg ttt ttg aag aaa gtt gcg ggt aaa ttc tgc tgt ttt	1392		
119	Arg Cys Arg Thr Phe Leu Lys Lys Val Ala Gly Lys Phe Cys Cys Phe			
120	450 455 460			
121	atg cgg tgg ctc ggg cag gag tgt acc tgc ttc ttg gag ccg gcc gag	1440		
122	Met Arg Trp Leu Gly Gln Glu Cys Thr Cys Phe Leu Glu Pro Ala Glu			
123	465 470 475 480			
124	ggt tta gtc ggc gat cat ggc cat gac aac gag gcc tat gag ggt tct	1488		
125	Gly Leu Val Gly Asp His Gly His Asp Asn Glu Ala Tyr Glu Gly Ser			
126	485 490 495			
127	gag gtc gac ccg gct gaa cct gca cat ctt gat gtt tct ggg act tac	1536		
128	Glu Val Asp Pro Ala Glu Pro Ala His Leu Asp Val Ser Gly Thr Tyr			
129	500 505 510			
130	gcc gtc cac ggg cac cag ctt gag gcc ctc tat agg gca ctt aat gtc	1584		
131	Ala Val His Gly His Gln Leu Glu Ala Leu Tyr Arg Ala Leu Asn Val			
132	515 520 525			
133	cca caa gat att gcc gct cga gct tcc cga cta acg gca act gtt gag	1632		
134	Pro Gln Asp Ile Ala Ala Arg Ala Ser Arg Leu Thr Ala Thr Val Glu			
135	530 535 540			
136	ctc gtt gca agt cca gac cgc tta gag tgc cgc acc gtg ctc ggt aat	1680		
137	Leu Val Ala Ser Pro Asp Arg Leu Glu Cys Arg Thr Val Leu Gly Asn			
138	545 550 555 560			
139	aag acc ttc cgg acg acg gtg gtc gac ggc gcc cat cta gag gcg aat	1728		

PAGE: 4

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

140	Lys Thr Phe Arg Thr Thr Val Val Asp Gly Ala His Leu Glu Ala Asn	
141	565 570 575	
142	ggc cct gag cag tat gtc tta tca ttt gac gcc tcc cgt cag tct atg	1776
143	Gly Pro Glu Gln Tyr Val Leu Ser Phe Asp Ala Ser Arg Gln Ser Met	
144	580 585 590	
145	ggg gcc ggg tcg cat agc ctc act tat gag ctc acc cct gct ggt ttg	1824
146	Gly Ala Gly Ser His Ser Leu Thr Tyr Glu Leu Thr Pro Ala Gly Leu	
147	595 600 605	
148	cag gtt agg att tca tct aat ggt ctg gat tgc act gct aca ttc ccc	1872
149	Gln Val Arg Ile Ser Ser Asn Gly Leu Asp Cys Thr Ala Thr Phe Pro	
150	610 615 620	
151	ccc ggt gga gcc cct agc gct gcg ccc ggg gag gtg gca gcc ttt tgc	1920
152	Pro Gly Gly Ala Pro Ser Ala Ala Pro Gly Glu Val Ala Ala Phe Cys	
153	625 630 635 640	
154	agt gcc ctt tat aga tat aac agg ttc acc cag cgg cac tcg ctg act	1968
155	Ser Ala Leu Tyr Arg Tyr Asn Arg Phe Thr Gln Arg His Ser Leu Thr	
156	645 650 655	
157	ggc gga tta tgg tta cac cct gag ggg ttg ctg ggt att ttc ccc cct	2016
158	Gly Gly Leu Trp Leu His Pro Glu Gly Leu Leu Gly Ile Phe Pro Pro	
159	660 665 670	
160	ttc tcc cct ggg cat atc tgg gag tct gcg aac ccc ttt tgc ggg gag	2064
161	Phe Ser Pro Gly His Ile Trp Glu Ser Ala Asn Pro Phe Cys Gly Glu	
162	675 680 685	
163	ggg act ttg tat acc cga act tgg tca aca tct ggc ttt tct agt gat	2112
164	Gly Thr Leu Tyr Thr Arg Thr Trp Ser Thr Ser Gly Phe Ser Ser Asp	
165	690 695 700	
166	ttc tcc ccc cct gaa gcg gcc gct cct gct atg gct gct acc ccg ggg	2160
167	Phe Ser Pro Pro Glu Ala Ala Ala Pro Ala Met Ala Ala Thr Pro Gly	
168	705 710 715 720	
169	ctg ccc cat tct acc cca cct gtt agc gat att tgg gtg cta cca ccg	2208
170	Leu Pro His Ser Thr Pro Pro Val Ser Asp Ile Trp Val Leu Pro Pro	
171	725 730 735	
172	ccc tca gag gag ttt cag gtt gat gca gca cct gtg ccc cct gcc cct	2256
173	Pro Ser Glu Glu Phe Gln Val Asp Ala Ala Pro Val Pro Pro Ala Pro	
174	740 745 750	
175	gac cct gct gga ttg ccc ggt ccc gtt gtg ctt acc ccc ccc ccc cct	2304
176	Asp Pro Ala Gly Leu Pro Gly Pro Val Val Leu Thr Pro Pro Pro Pro	
177	755 760 765	
178	ccc cct gtg cat aag cca tca ata ccc ccg cct tcc cgt aac cgt cgt	2352
179	Pro Pro Val His Lys Pro Ser Ile Pro Pro Pro Ser Arg Asn Arg Arg	
180	770 775 780	
181	ctc ctc tat acc tat cct gac ggc gct aag gtg tat gca ggg tca ctg	2400
182	Leu Leu Tyr Thr Tyr Pro Asp Gly Ala Lys Val Tyr Ala Gly Ser Leu	
183	785 790 795 800	
184	ttt gaa tca gac tgt gac tgg ctg gtt aat gcc tca aac ccg ggc cat	2448
185	Phe Glu Ser Asp Cys Asp Trp Leu Val Asn Ala Ser Asn Pro Gly His	
186	805 810 815	
187	cgt ccc gga ggt ggc ctc tgc cat gcc ttt tac caa cgt ttt cca gaa	2496
188	Arg Pro Gly Gly Gly Leu Cys His Ala Phe Tyr Gln Arg Phe Pro Glu	
189	820 825 830	

PAGE: 5

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

190	gcg ttt tac cca act gaa ttc atc atg cgt gag ggt ctt gca gca tac	2544
191	Ala Phe Tyr Pro Thr Glu Phe Ile Met Arg Glu Gly Leu Ala Ala Tyr	
192	835 840 845	
193	acc ttg acc ccg cgc cct atc att cat gca gtc gct ccc gat tat agg	2592
194	Thr Leu Thr Pro Arg Pro Ile Ile His Ala Val Ala Pro Asp Tyr Arg	
195	850 855 860	
196	gtt gag cag aac ccg aag agg ctt gag gca gcg tac cgt gaa act tgt	2640
197	Val Glu Gln Asn Pro Lys Arg Leu Glu Ala Ala Tyr Arg Glu Thr Cys	
198	865 870 875 880	
199	tcc cgt cgt ggc acc gct gcc tac ccg ctt ttg ggt tcg ggt ata tac	2688
200	Ser Arg Arg Gly Thr Ala Ala Tyr Pro Leu Leu Gly Ser Gly Ile Tyr	
201	885 890 895	
202	cag gtc cct gtt agc ctc agt ttt gat gcc tgg gaa cgt aat cac cgc	2736
203	Gln Val Pro Val Ser Leu Ser Phe Asp Ala Trp Glu Arg Asn His Arg	
204	900 905 910	
205	ccc ggc gat gag ctt tac ttg acc gag ccc gct gca aat tgg ttt gag	2784
206	Pro Gly Asp Glu Leu Tyr Leu Thr Glu Pro Ala Ala Asn Trp Phe Glu	
207	915 920 925	
208	gct aat aag ccg gcg cag ccg gtg ctc acc ata act gag gac acg gcc	2832
209	Ala Asn Lys Pro Ala Gln Pro Val Leu Thr Ile Thr Glu Asp Thr Ala	
210	930 935 940	
211	cgt acg gcc aac ctg gca ttg gag att gat gcc gct aca gag gtc ggc	2880
212	Arg Thr Ala Asn Leu Ala Leu Glu Ile Asp Ala Ala Thr Glu Val Gly	
213	945 950 955 960	
214	cgt gct tgt gcc ggt tgc acc atc agc cct ggc att gtg cac tat cag	2928
215	Arg Ala Cys Ala Gly Cys Thr Ile Ser Pro Gly Ile Val His Tyr Gln	
216	965 970 975	
217	ttt acc gcc ggg gtc ccg ggc tcg ggc aag tca agg tcc ata caa cag	2976
218	Phe Thr Ala Gly Val Pro Gly Ser Gly Lys Ser Arg Ser Ile Gln Gln	
219	980 985 990	
220	gga gat gtc gat gtg gtg gtt gtg ccc acc ccg gag ctt cgt aat agt	3024
221	Gly Asp Val Asp Val Val Val Val Pro Thr Arg Glu Leu Arg Asn Ser	
222	995 1000 1005	
223	tgg cgc cgc ccg ggt ttt gcg gcc ttc aca ccc cac aca gcg gcc cgt	3072
224	Trp Arg Arg Arg Gly Phe Ala Ala Phe Thr Pro His Thr Ala Ala Arg	
225	1010 1015 1020	
226	gtt act atc ggc cgc cgc gtt gtg att gat gag gct cca tct ctc ccg	3120
227	Val Thr Ile Gly Arg Arg Val Val Ile Asp Glu Ala Pro Ser Leu Pro	
228	1025 1030 1035 1040	
229	cca cac ctg ttg ctg tta cat atg cag ccg gcc tcc tcg gtc cat ctc	3168
230	Pro His Leu Leu Leu Leu His Met Gln Arg Ala Ser Ser Val His Leu	
231	1045 1050 1055	
232	ctc ggt gac cca aat cag atc cct gct att gat ttt gag cac gcc ggc	3216
233	Leu Gly Asp Pro Asn Gln Ile Pro Ala Ile Asp Phe Glu His Ala Gly	
234	1060 1065 1070	
235	ctg gtc cct gcg atc cgt ccc gag ctt gcg cca acg agc tgg tgg crc	3264
236	Leu Val Pro Ala Ile Arg Pro Glu Leu Ala Pro Thr Ser Trp Trp Xaa	
237	1075 1080 1085	
238	gtt aca cac cgt tgc ccg gcc gat gtg tgc gag ctc ata cgc gga gcc	3312
239	Val Thr His Arg Cys Pro Ala Asp Val Cys Glu Leu Ile Arg Gly Ala	

PAGE: 6

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000

TIME: 14:21:59

Input Set: I468147.RAW

240	1090	1095	1100	
241	tac cct aaa atc cag acc acg agc cgt gtg cta cgg tcc ctg ttt tgg	3360		
242	Tyr Pro Lys Ile Gln Thr Thr Ser Arg Val Leu Arg Ser Leu Phe Trp			
243	1105	1110	1115	1120
244	aat gaa ccg gcc att ggc cag aag ttg gtt ytc acg cag gcg gca aag	3408		
245	Asn Glu Pro Ala Ile Gly Gln Lys Leu Val Xaa Thr Gln Ala Ala Lys			
246	1125	1130	1135	
247	gct gct aac cct ggt gcg att acg gtc cac gaa gct cag ggt gcc acc	3456		
248	Ala Ala Asn Pro Gly Ala Ile Thr Val His Glu Ala Gln Gly Ala Thr			
249	1140	1145	1150	
250	ttc aca gag acc aca atc ata gcc acg gcc gac gcc agg ggc ctt atc	3504		
251	Phe Thr Glu Thr Thr Ile Ile Ala Thr Ala Asp Ala Arg Gly Leu Ile			
252	1155	1160	1165	
253	cag tca tcc cgg gct cat gct ata gtt gca ctt act cgc cac act gag	3552		
254	Gln Ser Ser Arg Ala His Ala Ile Val Ala Leu Thr Arg His Thr Glu			
255	1170	1175	1180	
256	aag tgt gtt atc ctg gat gcc ccc ggc ctg ctt cgt gag gtc ggc att	3600		
257	Lys Cys Val Ile Leu Asp Ala Pro Gly Leu Leu Arg Glu Val Gly Ile			
258	1185	1190	1195	1200
259	tcg gat gtg att gtc aac aac ttt ttc ctt gct ggt ggc gag gtc ggc	3648		
260	Ser Asp Val Ile Val Asn Asn Phe Phe Leu Ala Gly Gly Glu Val Gly			
261	1205	1210	1215	
262	crc cac cgc cct tct gtg ata cct cgc ggt aac cct gat caa aac ctc	3696		
263	Xaa His Arg Pro Ser Val Ile Pro Arg Gly Asn Pro Asp Gln Asn Leu			
264	1220	1225	1230	
265	ggg act tta cag gcc ttc ccg ccg tcc tgt caa att agt gct tac cat	3744		
266	Gly Thr Leu Gln Ala Phe Pro Pro Ser Cys Gln Ile Ser Ala Tyr His			
267	1235	1240	1245	
268	cag ttg gct gag gaa ctg ggc cat cgc ccg gcc cct gtc gcc gcc gtc	3792		
269	Gln Leu Ala Glu Glu Leu Gly His Arg Pro Ala Pro Val Ala Ala Val			
270	1250	1255	1260	
271	ttg ccc cct tgc cct gag ctt gag cag ggc ctg ctc tac atg cca cag	3840		
272	Leu Pro Pro Cys Pro Glu Leu Glu Gln Gly Leu Leu Tyr Met Pro Gln			
273	1265	1270	1275	1280
274	gag ctc act gtg tcc gat agt gtg ttg gtt ttt gag ctt acg gat ata	3888		
275	Glu Leu Thr Val Ser Asp Ser Val Leu Val Phe Glu Leu Thr Asp Ile			
276	1285	1290	1295	
277	gtt cat tgc cgc atg gcc gct cca agc cag cga aag gct gtt ctc tca	3936		
278	Val His Cys Arg Met Ala Ala Pro Ser Gln Arg Lys Ala Val Leu Ser			
279	1300	1305	1310	
280	aca ctt gtg ggg agg tat ggc cgt agg acg aaa cta tat gag gcg gcg	3984		
281	Thr Leu Val Gly Arg Tyr Gly Arg Arg Thr Lys Leu Tyr Glu Ala Ala			
282	1315	1320	1325	
283	cat tca gat gtt cgt gag tcc cta gct agg ttc atc cct act atc ggg	4032		
284	His Ser Asp Val Arg Glu Ser Leu Ala Arg Phe Ile Pro Thr Ile Gly			
285	1330	1335	1340	
286	cct gtt cag gct acc aca tgt gag ttg tat gag ttg gtt gag gct atg	4080		
287	Pro Val Gln Ala Thr Thr Cys Glu Leu Tyr Glu Leu Val Glu Ala Met			
288	1345	1350	1355	1360
289	gtg gag aaa ggt cag gac ggc tct gca gtc tta gag ctt gat ctt tgt	4128		

PAGE: 7

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000

TIME: 14:21:59

Input Set: I468147.RAW

290	Val Glu Lys Gly Gln Asp Gly Ser Ala Val Leu Glu Leu Asp Leu Cys	
291	1365 1370 1375	
292	aat cgt gat gtc tcg cgc atc aca ttt ttc caa aaa gwc tgc aac aag	4176
293	Asn Arg Asp Val Ser Arg Ile Thr Phe Phe Gln Lys Xaa Cys Asn Lys	
294	1380 1385 1390	
295	ttt aca act ggt gag acc atc gcc cac ggc aag gtt ggc cag ggt ata	4224
296	Phe Thr Thr Gly Glu Thr Ile Ala His Gly Lys Val Gly Gln Gly Ile	
297	1395 1400 1405	
298	tcg gcc tgg agt aag acc ttc tgc gct ctg ttc ggc ccg tgg ttc cgc	4272
299	Ser Ala Trp Ser Lys Thr Phe Cys Ala Leu Phe Gly Pro Trp Phe Arg	
300	1410 1415 1420	
301	gcc att gaa aaa gaa ata ttg gcc ctg ctc ccg cct aat atc ttt tat	4320
302	Ala Ile Glu Lys Glu Ile Leu Ala Leu Leu Pro Pro Asn Ile Phe Tyr	
303	1425 1430 1435 1440	
304	ggc gac gct tat gag gag tca gtt ttt gcc gcc gct gtg tcc ggg gcg	4368
305	Gly Asp Ala Tyr Glu Glu Ser Val Phe Ala Ala Ala Val Ser Gly Ala	
306	1445 1450 1455	
307	ggg tca tgt atg gta ttt gaa aat gac ttt tca gag ttt gac agt acc	4416
308	Gly Ser Cys Met Val Phe Glu Asn Asp Phe Ser Glu Phe Asp Ser Thr	
309	1460 1465 1470	
310	cag aat aat ttc tct ctt ggc ctt gag tgt gtg gtt atg gag gag tgc	4464
311	Gln Asn Asn Phe Ser Leu Gly Leu Glu Cys Val Val Met Glu Glu Cys	
312	1475 1480 1485	
313	ggc atg cct caa tgg cta att agg ttg tac cat ctg gtt cgg tct gcc	4512
314	Gly Met Pro Gln Trp Leu Ile Arg Leu Tyr His Leu Val Arg Ser Ala	
315	1490 1495 1500	
316	tgg att ctg cag gcg ccg aag gag tct ctt aag ggt ttc tgg aag aag	4560
317	Trp Ile Leu Gln Ala Pro Lys Glu Ser Leu Lys Gly Phe Trp Lys Lys	
318	1505 1510 1515 1520	
319	cat tct ggt gag cct ggt acc ctt ctt tgg aat acc gtc tgg aat atg	4608
320	His Ser Gly Glu Pro Gly Thr Leu Leu Trp Asn Thr Val Trp Asn Met	
321	1525 1530 1535	
322	gcg att ata gca cat tgc tat gag ttc cgt gac ttt cgt gtt gct gcc	4656
323	Ala Ile Ile Ala His Cys Tyr Glu Phe Arg Asp Phe Arg Val Ala Ala	
324	1540 1545 1550	
325	ttt aag ggt gat gat tcg gtg gtc ctc tgt agt gac tac cga cag agc	4704
326	Phe Lys Gly Asp Asp Ser Val Val Leu Cys Ser Asp Tyr Arg Gln Ser	
327	1555 1560 1565	
328	cgc aat gca gct gcc tta att gct ggc tgt ggg ctc aaa ttg aag gtt	4752
329	Arg Asn Ala Ala Ala Leu Ile Ala Gly Cys Gly Leu Lys Leu Lys Val	
330	1570 1575 1580	
331	gat tac cgc cct atc ggg ctg tat gct ggg gtg gtg gtg gcc ccc ggt	4800
332	Asp Tyr Arg Pro Ile Gly Leu Tyr Ala Gly Val Val Val Ala Pro Gly	
333	1585 1590 1595 1600	
334	ttg ggg aca ctg ccc gat gtg gtg cgt ttt gct ggt cgg ttg tct gaa	4848
335	Leu Gly Thr Leu Pro Asp Val Val Arg Phe Ala Gly Arg Leu Ser Glu	
336	1605 1610 1615	
337	aag aat tgg ggc ccc ggc ccg gaa cgt gct gag cag ctg cgt ctt gct	4896
338	Lys Asn Trp Gly Pro Gly Pro Glu Arg Ala Glu Gln Leu Arg Leu Ala	
339	1620 1625 1630	

PAGE: 8

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

```

340      gtc tgc gac ttc ctt cga ggg ttg acg aat gtt gcg cag gtc tgt gtt      4944
341      Val Cys Asp Phe Leu Arg Gly Leu Thr Asn Val Ala Gln Val Cys Val
342      1635                                1640                                1645
343      gat gtt gtg tcc cgt gtc tat gga gtc agc ccc ggg ctc gta cat aac      4992
344      Asp Val Val Ser Arg Val Tyr Gly Val Ser Pro Gly Leu Val His Asn
345      1650                                1655                                1660
346      ctt att ggc atg ctg cag acc atc gcc gat ggc aag gcc cac ttt aca      5040
347      Leu Ile Gly Met Leu Gln Thr Ile Ala Asp Gly Lys Ala His Phe Thr
348      1665                                1670                                1675                                1680
349      gag act att aaa cct gta ctt gat ctc aca aat tcc atc ata cag cgg      5088
350      Glu Thr Ile Lys Pro Val Leu Asp Leu Thr Asn Ser Ile Ile Gln Arg
351      1685                                1690                                1695
352      gtg gaa tga ataacatgtc ttttgcatcg cccatgggat cacc atg cgc cct agg      5143
353      Val Glu                                Met Arg Pro Arg
354      1700
355      gct gtt ctg ttg ttg ttc ctc atg ttt ctg cct atg ctg ccc gcg cca      5191
356      Ala Val Leu Leu Leu Phe Leu Met Phe Leu Pro Met Leu Pro Ala Pro
357      1705                                1710                                1715
358      ccg gcc ggt cag ccg tct ggc cgt cgc cgt ggg cgg cgc agc ggc ggt      5239
359      Pro Ala Gly Gln Pro Ser Gly Arg Arg Arg Gly Arg Arg Ser Gly Gly
360      1720                                1725                                1730                                1735
361      gcc ggc ggt ggt ttc tgg agt gac agg gtt gat tct cag ccc ttc gcc      5287
362      Ala Gly Gly Gly Phe Trp Ser Asp Arg Val Asp Ser Gln Pro Phe Ala
363      1740                                1745                                1750
364      ctc ccc tat att cat cca acc aac ccc ttc gcc gcc gat gtc gtt tca      5335
365      Leu Pro Tyr Ile His Pro Thr Asn Pro Phe Ala Ala Asp Val Val Ser
366      1755                                1760                                1765
367      caa ccc ggg gct gga act cgc cct cga cag ccg ccc cgc ccc ctc ggt      5383
368      Gln Pro Gly Ala Gly Thr Arg Pro Arg Gln Pro Pro Arg Pro Leu Gly
369      1770                                1775                                1780
370      tcc gct tgg cgt gac cag tcc aag cgc ccc tcc gtt gcc ccc cgt cgt      5431
371      Ser Ala Trp Arg Asp Gln Ser Lys Arg Pro Ser Val Ala Pro Arg Arg
372      1785                                1790                                1795
373      cga tct acc cca gct ggg gct gcg ccg cta act gcc ata tca cca gcc      5479
374      Arg Ser Thr Pro Ala Gly Ala Ala Pro Leu Thr Ala Ile Ser Pro Ala
375      1800                                1805                                1810                                1815
376      cct gat aca gct cct gta cct gat gtt gac tca cgt ggt gct att ttg      5527
377      Pro Asp Thr Ala Pro Val Pro Asp Val Asp Ser Arg Gly Ala Ile Leu
378      1820                                1825                                1830
379      cgc cgg cag tac aat ttg tct acg tcc ccg ctt aca tca tct gtt gct      5575
380      Arg Arg Gln Tyr Asn Leu Ser Thr Ser Pro Leu Thr Ser Ser Val Ala
381      1835                                1840                                1845
382      tct ggt act aat ctg gtt ctc tat gct gcc ccg ctg aac cct ctc ttg      5623
383      Ser Gly Thr Asn Leu Val Leu Tyr Ala Ala Pro Leu Asn Pro Leu Leu
384      1850                                1855                                1860
385      cct ctt cag gat ggc acc aac act cat att atg gct act gag gca tct      5671
386      Pro Leu Gln Asp Gly Thr Asn Thr His Ile Met Ala Thr Glu Ala Ser
387      1865                                1870                                1875
388      aat tac gcc cag tat cgg gtt gtt cgg gct acg att cgt tat cgc ccg      5719
389      Asn Tyr Ala Gln Tyr Arg Val Val Arg Ala Thr Ile Arg Tyr Arg Pro

```

PAGE: 9

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

390	1880	1885	1890	1895	
391	ttg gtg cca aat gct gtt ggt ggt tat gct atc tct att tct ttc tgg	5767			
392	Leu Val Pro Asn Ala Val Gly Gly Tyr Ala Ile Ser Ile Ser Phe Trp				
393	1900	1905	1910		
394	cct caa act aca act acc cct act tct gtt gac atg aat tct atc act	5815			
395	Pro Gln Thr Thr Thr Thr Pro Thr Ser Val Asp Met Asn Ser Ile Thr				
396	1915	1920	1925		
397	tct act gat gtc agg atc ttg gtc cag ccc ggt ata gcc tcc gag tta	5863			
398	Ser Thr Asp Val Arg Ile Leu Val Gln Pro Gly Ile Ala Ser Glu Leu				
399	1930	1935	1940		
400	gtc atc cct agt gaa cgc ctt cac tac cgc aac caa ggc tgg cgc tct	5911			
401	Val Ile Pro Ser Glu Arg Leu His Tyr Arg Asn Gln Gly Trp Arg Ser				
402	1945	1950	1955		
403	gtt gag acc acg ggt gtg gcc gaa gag gag gct acc tcc ggt ctg gta	5959			
404	Val Glu Thr Thr Gly Val Ala Glu Glu Glu Ala Thr Ser Gly Leu Val				
405	1960	1965	1970	1975	
406	atg ctt tgt att cat ggc tcc cct gtt aac tcc tac act aat aca cct	6007			
407	Met Leu Cys Ile His Gly Ser Pro Val Asn Ser Tyr Thr Asn Thr Pro				
408	1980	1985	1990		
409	tac acc ggt gca ttg ggg ctt ctt gat ttt gca tta gaa ctt gaa ttt	6055			
410	Tyr Thr Gly Ala Leu Gly Leu Leu Asp Phe Ala Leu Glu Leu Glu Phe				
411	1995	2000	2005		
412	aga aat ttg aca ccc ggg aac act aac acc cgt gtt tcc cgg tat act	6103			
413	Arg Asn Leu Thr Pro Gly Asn Thr Asn Thr Arg Val Ser Arg Tyr Thr				
414	2010	2015	2020		
415	agc aca gcc cgc cac cgg ctg cgc cgc ggt gct gat ggg acc gct gag	6151			
416	Ser Thr Ala Arg His Arg Leu Arg Arg Gly Ala Asp Gly Thr Ala Glu				
417	2025	2030	2035		
418	ctc acc acc aca gca gcc aca cgc ttc atg aag gat ttg cat ttt act	6199			
419	Leu Thr Thr Thr Ala Ala Thr Arg Phe Met Lys Asp Leu His Phe Thr				
420	2040	2045	2050	2055	
421	ggt acg aac ggc gtt ggt gag gtg ggt cgt ggt att gcc ctg act ctg	6247			
422	Gly Thr Asn Gly Val Gly Glu Val Gly Arg Gly Ile Ala Leu Thr Leu				
423	2060	2065	2070		
424	ttt aat ctt gct gat acg ctt ctt ggt ggt tta ccg aca gaa ttg att	6295			
425	Phe Asn Leu Ala Asp Thr Leu Leu Gly Gly Leu Pro Thr Glu Leu Ile				
426	2075	2080	2085		
427	tcg tcg gct ggg ggt caa ctg ttt tac tcc cgc cct gtt gtc tcg gcc	6343			
428	Ser Ser Ala Gly Gly Gln Leu Phe Tyr Ser Arg Pro Val Val Ser Ala				
429	2090	2095	2100		
430	aat ggc gag cca aca gta aag tta tac aca tct gtt gag aat gcg cag	6391			
431	Asn Gly Glu Pro Thr Val Lys Leu Tyr Thr Ser Val Glu Asn Ala Gln				
432	2105	2110	2115		
433	caa gac aag ggc atc acc att cca cac gac ata gat tta ggt gac tcc	6439			
434	Gln Asp Lys Gly Ile Thr Ile Pro His Asp Ile Asp Leu Gly Asp Ser				
435	2120	2125	2130	2135	
436	cgt gtg gtt atc cag gat tat gat aac cag cac gaa caa gat cga cct	6487			
437	Arg Val Val Ile Gln Asp Tyr Asp Asn Gln His Glu Gln Asp Arg Pro				
438	2140	2145	2150		
439	acc ccg tca cct gcc ccc tcc cgc cct ttc tca gtt ctt cgt gcc aat	6535			

PAGE: 10

RAW SEQUENCE LISTING PATENT APPLICATION US/09/468,147

DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

```

440      Thr Pro Ser Pro Ala Pro Ser Arg Pro Phe Ser Val Leu Arg Ala Asn
441                2155                2160                2165
442      gat gtt ttg tgg ctc tct ctc act gcc gct gag tac grc cag acc acg      6583
443      Asp Val Leu Trp Leu Ser Leu Thr Ala Ala Glu Tyr Xaa Gln Thr Thr
444                2170                2175                2180
445      tat ggg tcg tcc acc aac cct atg tat gtc tct gat aca gtc acg ctt      6631
446      Tyr Gly Ser Ser Thr Asn Pro Met Tyr Val Ser Asp Thr Val Thr Leu
447                2185                2190                2195
448      gtt aat gta gcc act ggt gct cag gct gtt gcc cgc tct ctt gac tgg      6679
449      Val Asn Val Ala Thr Gly Ala Gln Ala Val Ala Arg Ser Leu Asp Trp
450      2200                2205                2210                2215
451      tct aaa gtt act ctg gat ggt cgc cct ctt act acc att cag cag tat      6727
452      Ser Lys Val Thr Leu Asp Gly Arg Pro Leu Thr Thr Ile Gln Gln Tyr
453                2220                2225                2230
454      tct aag aaa ttt tat gtt ctc ccg ctt cgs ggg aag ctg tcc ttt tgg      6775
455      Ser Lys Lys Phe Tyr Val Leu Pro Leu Xaa Gly Lys Leu Ser Phe Trp
456                2235                2240                2245
457      gag gct ggt acg acc aag gcc ggc tac ccg tat aat tat aat acc act      6823
458      Glu Ala Gly Thr Thr Lys Ala Gly Tyr Pro Tyr Asn Tyr Asn Thr Thr
459                2250                2255                2260
460      gct agt gac caa att ttg att gag aac gcg gcc ggt cac cgt gtc gcc      6871
461      Ala Ser Asp Gln Ile Leu Ile Glu Asn Ala Ala Gly His Arg Val Ala
462                2265                2270                2275
463      att tct act tat acc act agt ttg ggt gcc ggc cct acc tcg aty tct      6919
464      Ile Ser Thr Tyr Thr Thr Ser Leu Gly Ala Gly Pro Thr Ser Xaa Ser
465      2280                2285                2290                2295
466      gcg gtc ggt gta cta gct cca cat tcg gcc ctt gct gtt ctc gag gat      6967
467      Ala Val Gly Val Leu Ala Pro His Ser Ala Leu Ala Val Leu Glu Asp
468                2300                2305                2310
469      act gtt gat tat cct gct cgt gcc cat act ttt gat gat ttc tgc ccg      7015
470      Thr Val Asp Tyr Pro Ala Arg Ala His Thr Phe Asp Asp Phe Cys Pro
471                2315                2320                2325
472      gag tgt cgc acc ctt ggt ctg cag ggt tgt gca ttc caa tct act att      7063
473      Glu Cys Arg Thr Leu Gly Leu Gln Gly Cys Ala Phe Gln Ser Thr Ile
474                2330                2335                2340
475      gct gaa ctt cag cgt ctt aaa atg aag gta ggt aaa acc cgg gag tct      7111
476      Ala Glu Leu Gln Arg Leu Lys Met Lys Val Gly Lys Thr Arg Glu Ser
477                2345                2350                2355
478      taa ttaattcctt ttgtgcccc ttgcgcagttc tctttggcct tattttctcat      7164
E--> 479      (2360) delete
480      ttctgctttc cgcgctccct ggaaaaaaaa aaaaaaaaaa      7202

```

481 <210> 92

482 <211> 660

483 <212> PRT

484 <213> Hepatitis E virus

485 <400> 92 ← please ensure that amino acids start directly under
 486 Met Arg Pro Arg Ala Val Leu Leu Leu Phe Leu Met Phe

487 1 5 10

488 Leu Pro Met Leu Pro Ala Pro Pro Ala Gly Gln Pro Ser Gly Arg Arg

← 4007 92
 (is submitted
 file, they
 did not)

PATENT APPLICATION US/09/468,147

TIME: 14:21:59

PATENT APPLICATION US/09/46

15 20 25

please ensure serial numbers are properly aligned - do not use TAB code between rows

	489	15				20						25							
	490	Arg Gly Arg Arg Ser Gly Gly Ala Gly Gly Gly Phe Trp Ser Asp Arg																	
	491	30				35						40							45
	492	Val Asp Ser Gln Pro Phe Ala Leu Pro Tyr Ile His Pro Thr Asn Pro																	
	493	50				55						60							
E-->	494	Phe Ala Ala Asp Val Val Ser Gln Pro Gly Ala Gly Thr Arg Pro Arg																	
	495	65				70						75							
	496	Gln Pro Pro Arg Pro Leu Gly Ser Ala Trp Arg Asp Gln Ser Lys Arg																	
E-->	497	80				85						90							
	498	Pro Ser Val Ala Pro Arg Arg Arg Ser Thr Pro Ala Gly Ala Ala Pro																	
E-->	499	95				100						105							
	500	Leu Thr Ala Ile Ser Pro Ala Pro Asp Thr Ala Pro Val Pro Asp Val																	
	501	110				115						120							125
	502	Asp Ser Arg Gly Ala Ile Leu Arg Arg Gln Tyr Asn Leu Ser Thr Ser																	
	503	130				135						140							
	504	Pro Leu Thr Ser Ser Val Ala Ser Gly Thr Asn Leu Val Leu Tyr Ala																	
	505	145				150						155							
	506	Ala Pro Leu Asn Pro Leu Leu Pro Leu Gln Asp Gly Thr Asn Thr His																	
	507	160				165						170							
	508	Ile Met Ala Thr Glu Ala Ser Asn Tyr Ala Gln Tyr Arg Val Val Arg																	
	509	175				180						185							
	510	Ala Thr Ile Arg Tyr Arg Pro Leu Val Pro Asn Ala Val Gly Gly Tyr																	
	511	90				195						200							205
	512	Ala Ile Ser Ile Ser Phe Trp Pro Gln Thr Thr Thr Thr Pro Thr Ser																	
	513	210				215						220							
	514	Val Asp Met Asn Ser Ile Thr Ser Thr Asp Val Arg Ile Leu Val Gln																	
	515	225				230						235							
	516	Pro Gly Ile Ala Ser Glu Leu Val Ile Pro Ser Glu Arg Leu His Tyr																	
	517	240				245						250							
	518	Arg Asn Gln Gly Trp Arg Ser Val Glu Thr Thr Gly Val Ala Glu Glu																	
	519	255				260						265							
	520	Glu Ala Thr Ser Gly Leu Val Met Leu Cys Ile His Gly Ser Pro Val																	
	521	70				275						280							285
	522	Asn Ser Tyr Thr Asn Thr Pro Tyr Thr Gly Ala Leu Gly Leu Leu Asp																	
	523	290				295						300							
	524	Phe Ala Leu Glu Leu Glu Phe Arg Asn Leu Thr Pro Gly Asn Thr Asn																	
	525	305				310						315							
	526	Thr Arg Val Ser Arg Tyr Thr Ser Thr Ala Arg His Arg Leu Arg Arg																	
	527	320				325						330							

PAGE: 12

RAW SEQUENCE LISTING
PATENT APPLICATION US/09/468,147

 DATE: 01/13/2000
 TIME: 14:21:59

Input Set: I468147.RAW

539 415 420 425
 540 Asp Ile Asp Leu Gly Asp Ser Arg Val Val Ile Gln Asp Tyr Asp Asn
 541 30 435 440 445
 542 Gln His Glu Gln Asp Arg Pro Thr Pro Ser Pro Ala Pro Ser Arg Pro
 543 450 455 460
 544 Phe Ser Val Leu Arg Ala Asn Asp Val Leu Trp Leu Ser Leu Thr Ala
 545 465 470 475
 W--> 546 *See* Ala Glu Tyr **Xaa** Gln Thr Thr Tyr Gly Ser Ser Thr Asn Pro Met Tyr
 item 10
 547 480 485 490
 548 Val Ser Asp Thr Val Thr Leu Val Asn Val Ala Thr Gly Ala Gln Ala
 549 495 500 505
 550 Val Ala Arg Ser Leu Asp Trp Ser Lys Val Thr Leu Asp Gly Arg Pro
 551 *Even* 10 515 520 525
 552 Leu Thr Thr Ile Gln Gln Tyr Ser Lys Lys Phe Tyr Val Leu Pro Leu
 Summary
 553 530 535 540
 W--> 554 **Xaa** Gly Lys Leu Ser Phe Trp Glu Ala Gly Thr Thr Lys Ala Gly Tyr
 Sheet
 555 545 550 555
 556 Pro Tyr Asn Tyr Asn Thr Thr Ala Ser Asp Gln Ile Leu Ile Glu Asn
 557 560 565 570
 558 Ala Ala Gly His Arg Val Ala Ile Ser Thr Tyr Thr Thr Ser Leu Gly
 559 575 580 585
 W--> 560 Ala Gly Pro Thr Ser **Kaa** Ser Ala Val Gly Val Leu Ala Pro His Ser
 595 600 605
 561 Ala Leu Ala Val Leu Glu Asp Thr Val Asp Tyr Pro Ala Arg Ala His
 562 610 615 620
 563 Thr Phe Asp Asp Phe Cys Pro Glu Cys Arg Thr Leu Gly Leu Gln Gly
 564 625 630 635
 565 Cys Ala Phe Gln Ser Thr Ile Ala Glu Leu Gln Arg Leu Lys Met Lys
 566 640 645 650
 567 Val Gly Lys Thr Arg Glu Ser
 568 655 660
 569

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
 Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
 <223> fields of each sequence which presents at least one n or Xaa.

VERIFICATION SUMMARY
PATENT APPLICATION US/09/468,147DATE: 01/13/2000
TIME: 14:21:59

Input Set: I468147.RAW

Line	? Error/Warning	Original Text
479	E Number of Bases conflict w/ Running Total	2360
495	E Invalid/Missing Amino Acid Numbering	65 70
497	E Invalid/Missing Amino Acid Numbering	80 85 9
499	E Invalid/Missing Amino Acid Numbering	95 100 10
546	W "N" or "Xaa" used: Feature required	Ala Glu Tyr Xaa Gln Thr Thr Tyr Gly Ser S
554	W "N" or "Xaa" used: Feature required	Xaa Gly Lys Leu Ser Phe Trp Glu Ala Gly T
560	W "N" or "Xaa" used: Feature required	Ala Gly Pro Thr Ser Xaa Ser Ala Val Gly V